CLAIM AMENDMENT

7.*(once amended)*A metal embedded sensor comprising:

a metal structure comprising a metal having a melting temperature above 660°C; and

a sensor embedded inside the metal structure;

A1

wherein said metal structure is of a thickness and a metal such that externally induced local thermal rises occurring during molten metal forming processes above 660°C of a bulk material is transformed into balanced heat load onto the sensor for a uniformly expanding without cracking of it, said bulk material being molted in immediate contact to said metal structure.

8. *(once amended)* The metal embedded sensor of claim 7, wherein the metal structure comprises:

a. a coating metallic layer;

b. an embedding metallic layer on the coating metallic layer; and

wherein said metal structure is in direct adhesive contact with said sensor.

A2

22. *(once amended)* The metal embedded sensor of claim 7, wherein the sensor is in the form of a thin film thermo-mechanical sensor, and wherein the metal structure comprises:

a. a coating metallic layer comprising

i. a first metallic layer;

ii. a second metallic layer on the first metallic layer, said second metallic layer selected from the group consisting of copper, nickel, iron, and platinum; and

b. an embedding metallic layer on the coating metallic layer.

23. *(once amended)* The metal embedded sensor of claim 22, wherein the sensor comprises:

a. a first insulating layer ;

b. a sensor layer disposed on the first insulating layer;

c. a second insulating layer disposed on the sensor layer; and

Cancel A2

wherein said first insulating layer and said second insulating layers are deposited of an insulating material with a maximum thickness for providing adequate electric insulation of said sensor layer in operation.